Saving Energy In The Home

DOING THE LAUNDRY

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Doing laundry calls for a considerable expenditure of time, money, and energy resources. Reducing the time and money spent on such tasks has always been a concern, but now we also need to conserve energy. Thus it is important to know how to select and use laundry products that will give good results with the laundry equipment and water supply available and at the same time use the least possible amount of energy.

WASHERS

If you are buying a washer, select one that uses the fewest gallons of hot water. The least thirsty brand uses approximately 15 gallons, while the most thirsty may use 25 gallons. This can make a considerable difference in the amount of energy needed to heat the water. For the same reasons, a machine that provides for three water levels for washing small, medium, and large loads is recommended.

When you are using your washer, wash full loads of clothes unless your machine permits selection for load size. Do not overload, however.

Water Temperature

For best cleaning results use hot water with detergent whenever the fiber content, finish, and color of the fabric can tolerate hot water. Hot water is also most effective in destroying bacteria, which is especially important in the cold and flu season. Warm water should be used for lightly soiled articles and for fabrics that require warm water temperatures. Clothes may be rinsed in cold water even when laundered in hot, in order to save the energy needed to heat water.

Some people have recommended using only cold water for laundry to conserve energy. For items that are only lightly soiled or for items that are not colorfast, this may be satisfactory. However, cold water does not clean clothes as effectively as hot water; perspiration and oily stains are especially difficult to remove from synthetics or synthetic blends if hot water is not used. To get the same amount of cleaning in cold water as in water of 120-130° F. (49-54° C.) may require two to three times as much detergent. On the other hand, hot water will cause more wrinkling of synthetic fabrics and may cause shrinkage in some fabrics (such items are generally labeled "wash in warm water").

SELECTION AND USE OF LAUNDRY PRODUCTS

There is still much confusion about the "virtues" of various laundry additives and procedures. Learn to read the information on the deter-

gent package. This should give the recommended amounts to use, special procedures for washing certain items, and ingredients used in the detergent formula as well as special precautions, if such warnings are necessary.

Detergents

The first active cleaner used for laundry was soap — and it is still one of the best in very soft water. However, in hard water, soap forms an insoluble curd that sticks to the clothes and gives them a dingy appearance. Soil in the articles being laundered can increase the hardness of water, thereby decreasing the effectiveness of soap even further. Do not use soap to launder flame-retardant sleepwear unless the water is extremely soft because soap curds coat the fibers in the fabric and make the garment burn more easily. If you are interested in knowing how hard your water is, check with your local water utility office or the Illinois State Water Survey, Champaign 61820.

Synthetic detergents (sometimes called syndets) were developed to overcome the problems related to the use of soap. They may be used effectively in either hard or soft water, but they do lose cleaning efficiency as water hardness increases.

Synthetic detergents labeled "heavy duty" or "all purpose" generally contain compounds (called builders) that increase the ability of the detergent to tackle grease and heavy soil. These compounds also act as water softeners; however, if they are needed to soften hard water, they are not available for increasing cleaning power. Soaps and synthetic detergents that lack builders are usually labeled to be used for dishwashing or hand laundry.

There are several kinds of builders used in detergents currently on the market: phosphates, carbonates, silicates, and citrates.

Phosphates. These compounds are very effective builders in laundry detergents. They soften the water, increase cleaning efficiency, are not highly toxic, and do not leave a film on the clothes, even when used in hard water. Phosphates came under criticism because it was believed that they were responsible for the increased growth of algae in streams and rivers. Because algae used up the oxygen needed by fish, the fish died. Time and research, however, have proved that the amount of phosphate in detergents is not large enough to create, by itself, this problem of excessive algae growth (eutrophication).

Carbonates and Silicates. These builders may be highly alkaline. This means that they may be very irritating if splashed into the eyes or nose and may be harmful or fatal if swallowed. Note the cautions

and information printed on the label of the detergent container. In areas with hard water, detergents with carbonate or silicate builders may cause buildup of deposits on clothes and washer parts. This buildup is thought to shorten the life of both the clothes and the washer. In fabrics with a flame-retardant finish, this buildup coats the fibers and makes them burn more readily than fibers that do not have this coating. Detergents with carbonate or silicate builders may also cause spotting or color change of dyed fabrics under certain conditions.

Citrates. The citrates clean more effectively than the carbonates or silicates, especially in hard water. However, they are still not as efficient as phosphate-built detergents.

Amount of Detergent to Use. The amounts of detergents recommended on the containers are for moderately hard water, regular size washers, moderately soiled clothes, and a normal size load. If your water is very soft, the clothes are slightly soiled, or a smaller load is washed, decrease the amount of detergent used. If the clothes are very dirty, the water is hard, or the washer or the load being washed is larger than normal, increase the amount of detergent. Except when soap is used, the amount of suds produced is not an indication of cleaning ability.

Water Softeners

If your water is very hard, an ion exchange water softener is recommended, at least for the hot water line. If the water is moderately hard to hard, use additional detergent or a packaged water softener. Remember, detergent that is used to soften water is not available to clean the clothes.

Some packaged water softeners form a precipitate with the hard water ions and can leave a scum on the clothes. Washing soda is an example of this type of water softener. Another type of packaged water softener is nonprecipitating and does not form a scum in the water; it is more effective than precipitating water softeners but may be more expensive. Of the nonprecipitating packaged water softeners, the phosphate-based ones will soften the water more efficiently than other nonprecipitating softeners now available. Check the package for information about the ingredients in the softener and the directions for use.

Bleaches

Bleaches are important laundry aids. They can be used to remove dye stains such as from berries, mustard, some inks, etc. They will not actually remove grease, clay, or other similar stains, although they

may lighten the stain somewhat. Bleaches can be divided into three main groups: mild peroxygen bleaches (such as sodium perborate and hydrogen peroxide — generally referred to as "all-fabric bleaches"), reducing bleaches (such as color removers or sodium hydrosulfite), and chlorine bleaches.

Instructions for use are found on the bleach container — *follow all instructions carefully!* Chlorine-containing bleaches are more effective for stain removal than peroxygen-based bleaches, but they will ruin fabrics made of wool, silk, or spandex.

Check the colorfastness of any article before using any bleach. Color removers are just that! They should be used only on white fabrics or on items from which the color is to be stripped.

Enzyme Presoaks

Actually, soaking soiled or stained clothing for several hours in water plus a detergent of any kind will greatly aid the cleaning process. The enzyme presoaks are particularly useful for protein stains such as chocolate, blood, milk, or gravy. The important thing with any enzyme presoak is how long the article soaks. Half an hour is the minimum time for stain removal; several hours or overnight is better.

Fabric Softeners

Fabric softeners do help reduce static buildup and also help to reduce wrinkling. For all fabric softeners follow the directions on the container. Those that are to be added to the rinse water only may form a precipitate and stain the clothing if added in the wash cycle. Aerosol spray fabric softeners used in the dryer can form a sticky residue in the dryer that will attract and hold lint. This lint buildup may actually clog the lint filter and could cause the dryer to overheat. Solid pad fabric softeners to be used in the dryer may cause spotting on the clothes.

CLOTHES DRYERS

There are several ways to save energy when using a clothes dryer. First, don't overload the dryer. Second, use the dryer cycle and temperature suitable for the fabrics being dried. Next, avoid overdrying. Overdrying uses more energy and shortens the life of fabrics. If there is no cool-down cycle on the dryer, plan to use the dryer continually if there will be more than one load, since putting the clothes to be dried in a warm dryer will shorten drying time. And last of all, clean the lint filter after drying each load of clothes.

Line Drying vs. Machine Drying

Line drying clothes outside on a clothesline definitely saves on energy usage for the drying process. However, many laundered items need little or no ironing if dryer dried but are often much more wrinkled when line dried. Therefore, consider the energy used in the ironing process as well as the energy saved by line drying. In addition, some of the flame-retardant finishes are no longer flame retardant after the fabrics have been hung outdoors. Follow care labels precisely!

When using a clothes dryer, do not dry clothes bone dry, as this not only uses more energy but also causes the clothes to wear out faster. Removing clothes from the dryer while they are still just slightly damp usually reduces the wrinkling as well and thus lessens the need for further ironing.

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